

[0076] In use, the cable connector 12 is attached to the rear wall 18 of the electrical box 10. The electrical cable 26 is inserted through the cable opening 24 so that the wires 32 pass through the cable opening 46 and the front wall 38 of the cable housing 34 and the armor sheath 30 passes through the open front end of the cable retainer 36. The armor sheath slides past the arms 74, 76 and 90 so that the ends of the arms engage the valleys between the corrugations of the armor sheath 30 to retain the electrical cable in a fixed position.

[0077] In another embodiment shown in FIGS. 18-26, the cable retainer 100 is coupled to the electrical box 10 next to or adjacent a side wall 104 of the electrical box 10. The electrical box 10 is substantially the same as in the previous embodiment FIGS. 1-17.

[0078] The cable connector 100 is similar to the previous embodiment and includes a housing 106 and a cable retainer 108. The cable retainer 108 is substantially the same as in the previous embodiment. The housing 106 includes a front wall 110 having cable openings 112 and an inwardly extending collar 114 surrounding each of the cable openings 112. The front wall 110 has a bottom edge 116 having a pair of coupling tabs 118. A rear wall 120 is spaced from the front wall 110 and includes wire openings 122 aligned with the cable openings 112 in the front wall 110. The rear wall 120 includes an inwardly extending collar 124 surrounding the wire openings 122 for guiding wires through the opening. The rear wall 120 has a bottom edge 126 for contacting the rear wall of the electrical box and is provided with one or more coupling tabs 128. As shown in FIG. 22, the coupling tabs 118 and 128 are integrally formed with the front wall 110 and the rear wall 120, respectively.

[0079] Referring to FIGS. 20 and 21, the rear wall 130 of the electrical box 102 includes a plurality of spaced apart apertures 132 positioned for receiving the coupling tabs. The rear wall 130 is formed with an embossed portion 134 forming a recess 136 in the bottom face of the rear wall 130. The recess 136 has a dimension to receive the ends of the coupling tabs. The coupling tabs of the housing 106 are inserted through the corresponding apertures 132 and bent 90° as shown FIGS. 20 and 21 to couple the housing 106 to the rear wall of the electrical box 10. The coupling tabs 118 and 128 are bent into the recess 136 so that the coupling tabs do not project beyond the bottom face of the rear wall and are substantially flush or slightly recessed with respect to the bottom face of the rear wall.

[0080] The cable retainer 108 is positioned in a manner similar to the previous embodiment and is captured between the side wall of the electrical box and the housing 106. The coupling tabs 118 and 128 eliminate the need for the coupling screw to permanently couple the cable connector 100 to the electrical box 12. The cable is inserted through the opening in the electrical box so that the armor sheath couples to the arms of the cable retainer 108 and the wires pass through the opening in the rear wall 120 of the housing 106 in a manner similar to the previous embodiment.

[0081] In a further embodiment shown in FIG. 27-29, the cable connector 140 is coupled to the sidewall of the electrical box 10. The cable connector 140 is similar to the previous embodiments where the cable connector has a housing 142 with a front wall 144 with cable openings, a rear wall 146 with cable openings and a top wall 150. A cable retainer 152 is received in the cable openings in the front

wall 144 as in the previous embodiment. The cable retainer 152 is substantially the same as in the embodiment of FIGS. 1-17.

[0082] The front wall 144 of the housing 142 is formed with a flange 154 cut from the top wall 150. The front wall 144 includes a threaded screw hole for receiving a coupling screw 156. As shown in FIGS. 28 and 29, the screw 156 extends through an aperture in the sidewall of the electrical box 10 and threads into the screw hole in the front wall 144 to attach the cable connector 140 to the electrical box 10.

[0083] Referring to FIGS. 30 and 31 a further embodiment of the invention includes a cable connector 160 having a housing 162 and a cable retainer 164 received in the cable connector 160. The housing 162 includes a front wall 166, a rear wall 168 and a connecting wall 170 connecting the front wall 166 and rear wall 168. In this embodiment, the connecting wall 170 forms a top wall. The front wall 166 includes cable openings 172 having an inwardly extending collar 174 in a manner similar to the previous embodiment. The rear wall 168 includes cable openings 176 having an inwardly extending collar 178. The housing 162 can be coupled to the electrical box 179 by suitable fasteners. As in the previous embodiments, the housing 162 can be coupled to a side wall or bottom wall of the electrical box 179 by a fastener.

[0084] The connecting wall 170 extends between the front wall 166 and the rear wall 168 and is provided with a slot 180 forming an opening for the cable retainer 168. As shown in FIGS. 30 and 31, the slot 180 extends in a direction substantially parallel to the front wall 166 and spaced between the front wall 166 and rear wall 168.

[0085] Referring to FIG. 30, the cable retainer 164 has a first planar portion 182 and a second planar portion 184 forming an actuating flange. The first planar portion 182 has a cable opening 186 with a dimension for receiving the cable 194. The cable opening 186 is defined by spaced apart parallel arms 188. The arms 188 have a concave inner surface to define the substantially circular cable opening 186. Each arm 188 has an inwardly extending portion forming a tab 192 at a distal end of the arm. The inner edges of the tabs 192 are spaced apart a distance to be able to slide over the outer surface of the armor cable as shown in FIG. 31. The arms 188 are sufficiently flexible to bend outwardly as the distal ends slide over the outer surface of the armor cable 194.

[0086] In use the arms 188 slide within the respective slot 180 between a first outwardly extended position and a second position for engaging in the electrical cable 194 as shown in FIGS. 30 and 31. The arms 188 are moved to the extended position to retract the end of the planar portion 182 from the cable passage of the housing 162. The electrical cable 194 is inserted through the cable passage of the housing as in the previous embodiment to the position shown in FIG. 31. The cable retainer 164 is manually moved downward into the cable passage of the housing 162 so that the tabs 192 of the arms 188 slide over the armor sheath of the cable as shown in FIG. 31 to grip the cable 194 and retain the cable within the cable connector 160.

[0087] FIGS. 32-36 illustrate another embodiment of the invention for connecting an electrical cable to the electrical box and preventing removal of the electrical cable from the electrical box. In this embodiment of the invention, the cable connector 200 includes a housing 202 and a cable retainer 204. The cable connector 200 is mounted in an electrical box